

The
**VICTORIA
NATURALIST**

Vol. 1, No. 3

September, 1944



SOCKEYE SALMON

Resting in a pool on their way to the
spawning-grounds.

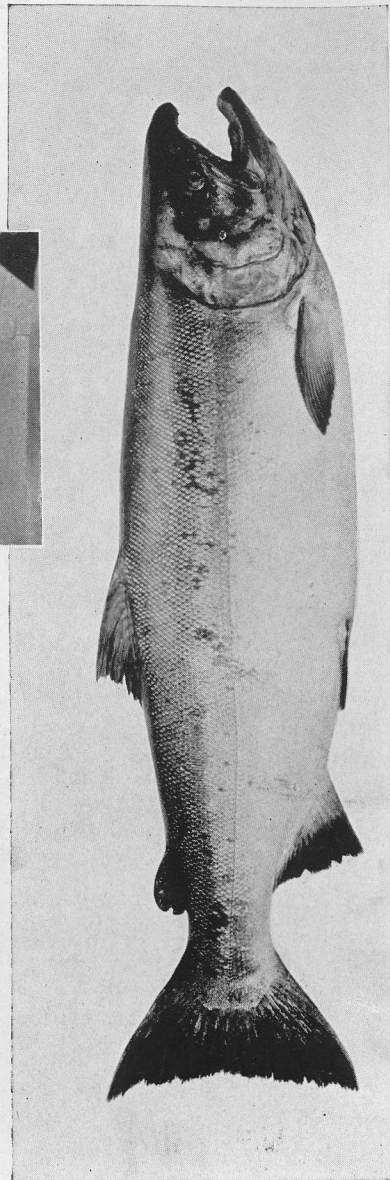
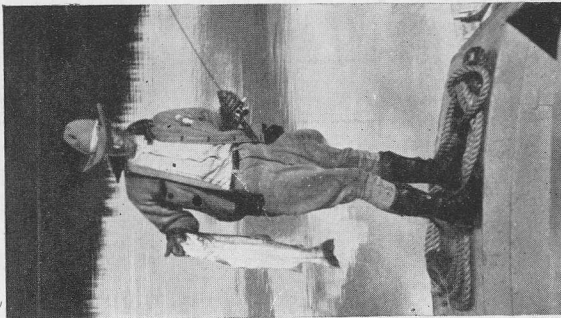


Coho Salmon

(*Oncorhynchus kisutch*.)

Average weight 9 lbs.

Average length 28½ in.



THE VICTORIA NATURALIST

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— The Victoria Natural History Society —

The last regular monthly meeting before the summer recess was held in the Provincial Library on May 9th under the auspices of "The Society for the Preservation of Native Plants" and an address was given by Mr. C. P. Lyons on:

"A British Columbia Park System;
its Development and Planning."

A summary of Mr. Lyons' address appears on Page 30 of this issue.

During the summer months a number of very successful field meetings have been held. These meetings have been well attended and have covered a number of interesting topics. It is evident from the response received, that they are fulfilling a much needed want.

Owing to the general transportation difficulties it has been impossible to arrange many meetings far afield. The two large meetings at the homes of Mr. and Mrs. Woodward and Mr. L. E. Taylor were very well attended and the Society is indebted to them for their generous hospitality. Many thanks are also due to those who have taken members in their cars on these outside trips.

The Woodward farm, with its pond surrounded by willow and cultivated fields flanked by well wooded hills, is a haven for many birds of very varying types. Owing to the late date at which this meeting was held, the nesting season was over for most species, but it was possible to compile a fair list of birds seen and identified. Mrs. Woodward kindly showed those present her collection of paintings of English birds which she had originally painted for school display in England. Seeing these remarkably lifelike studies was, in itself, well worth the trip to Albert Head.

About twenty people, including members and their families, enjoy the hospitality of Mr. Lionel E. Taylor at his home near Mount Newton Crossroads, Saanich, on Saturday, July 15th. Some members arrived by bus, some by private car and some by bicycle; all were much interested in viewing Mr. Taylor's indoor garden of African succulents and the fine collection of African materials in his miniature museum. The outdoor barbecue, wieners and buns kindly supplied by Mr. Taylor, completed a most enjoyable outing. We hope we may be invited again.

Through the courtesy of the Pacific Bird and Mammal Society an invitation was extended to the members of our Society to attend their meeting held in the Museum on the evening of Saturday, June 3rd. Two good films were shown and a number of interesting papers were read. Among these was one by Mr. Theed Pearse of Courtenay, V.I., on the birds of the Courtenay area. This paper was of special interest to the many members of our Society who attended this meeting. We hope, in the near future, to publish some more papers from the pen of this able ornithologist.

Editor.

NOTICE:

Commencing September 12th the regular monthly meetings will be resumed. This meeting will be held in the Provincial Library at 8 p.m. It is hoped that there will be a good attendance as there are a number of important matters to be discussed.

If you know anybody who is interested in Natural History and likely to become a member bring them to this meeting as the Society could do with more active members especially from among the younger members of the community.

The following is a list of the outdoor meetings held during the spring and summer of 1944:

<u>Group</u>	<u>Place</u>	<u>Convener</u>
Apr. 29	Geology Cordova Bay	Mathews.
May 6	Botany Uplands	Connell
12	" Pemberton Woods	Connell
21	" Goldstream	Connell
27	" Rithet's Farm	Connell
June 3	" Beaver Lake	Connell
10	Marine Biology Gonzales Point (see special report page 33.)	Cunningham
17	Geology Beacon Hill Foreshore	Connell
18	Ornithology Albert Head	Mrs. Woodward
24	Botany Highland Dist.	Connell
24	Ornithology Lost Lake	Clay
24	Marine Biology Breakwater	Cunningham
July 2	Biology Albert Head	Carl
15	All Groups Mount Newton	Taylor
22	Geology Brick Yards and Rock exposures on Quadra.	Connell

A B.C. Park System;
Its Development and Planning

Summary of address given at the Monthly meeting May 9th, 1944.

Correct park planning is based on a knowledge of recreational behavior and needs. The underlying principals are traceable right back to the start of civilization. Some of the characteristics that distinguish man as a human being are his concern over food, clothes and shelter. Once these essentials are obtained, he sets about improving their quality and is further driven for a need of self expression.

Present day occupations in the cities seldom provide the opportunities for self expression and the monotony of machine-made work builds up a nervous tension that demands relief in a like manner to what was normally experienced by our forefathers.

In 1940 the established parks and reserves were reclassified as Class A, B, C. and Special Act parks and placed under the administration of the Forest Service. Class A parks are areas of high recreational value; Class B are larger parks running into millions of acres and are multiple use parks. Class C are the small community reserves. Special Act parks have special legislation set up for their administration. To date there are 52 parks totalling 10,800,000 acres.

Legislation in the past year has made provision for the protection of natural resources in the parks. This will eventually extend to attractive roadside areas. It is hoped that strict enforcement coupled with an educational program will alleviate or stop the damage to the plants, shrubs and trees that are so ruthlessly destroyed at the present time by a thoughtless public.

Many factors point to greatly increased outdoor activity after the war. More leisure time, better roads and faster means of transportation coupled with an advertising program for suitably developed park areas will all help in promoting healthful recreation.

The development of a park system must be based on certain facts. The most important is that recreational needs are in direct proportion to the degree of urbanization. People also have certain preferences in activities. Areas which provide picnicing, swimming and fishing facilities are the most popular. Such areas are all the more desirable if they are accessible from main highways or popular travel routes.

Studies have shown that on one day outings the travel distance is 28 miles from the city and on weekends about 78 miles. Therefore the choice of desirable areas within the accepted travel distance must be stressed in the creation of new park areas.

Data on the most attractive regions in British Columbia are being gathered. Areas rich from an historical standpoint or containing unusual fauna and flora or geological formations are listed as well as roadside reserves and scenic areas. In time this information will be complete and when balanced against the population densities, travelled highways and recreational needs of the various cities and towns, will provide a logical way to plan "the most good for the most people".

C.P. Lyons.

Notes on the Botanical Section outings of the Spring and summer, 1944.

The Botanical Section has held six outings at various points in suburbs and country, and the attendance has been on the whole satisfactory, the largest about 25% of the Section's membership.

The Uplands area in the neighborhood of the car terminal was visited twice and the fine display of spring and early summer flowers enjoyed. These excursions were followed by one to the fields north of Pemberton Woods where the changes in flora resulting from drainage and from garden escapes was noted. Among the escapes an interesting one was found by Mr. J. F. Palmer, the blue woodruffe, *Asperula arvensis*.

On the 21st of May a trip to Goldstream by train was arranged and a pleasant day was spent exploring the valley of the river as far as the falls. Many interesting plants of the woods, the dry hillsides, the moist banks, and the stream-bed were seen.

A week later Rithet's Swamp was visited and its very striking flora seen to good advantage. The *kalmia* and Labrador-tea were not fully out but sufficiently for the purposes of the party. The arctic *trientalis* was in full flower. The bog cranberry and blueberry and the two birches, western and glandular, were other interesting members of the flora of this old peat-bog.

On the 3rd of June the Beaver Lake area was explored and a very good idea obtained of the flora of open forest, rocky outcrops, lake shore, and the water along the shoreline. Perhaps the most pleasing association was that by the water near the picnic grounds where in the moist soil blue water forget-me-nots in rich profusion grew together with the silverweed's golden flowers.

An interesting visit to the northern end of Langford Plains along the Highland District road was made on June 24th when swamp flora was succeeded by that of Sitka alder, cascara, and shepherdia or soapalallie thickets. The sweet-scented dogbane or honey-bloom with its dainty pink bells was found in great profusion along the trail in places. The changing character of the road added much to the variety of plants seen: forest and rocky hillsides succeeding the Plains and displaying pearly everlasting, woolly sunflower, and even sea-blush, with a variety of ferns. Finally the upper waters of the Millstream were reached where among the musk and water-cress grew the tall and handsome tufted loosestrife with its bright yellow flowers.

ROBT. CONNELL,
Convener.

Notes on the Marine Biology Group meeting of 10th June at Gonzales Point.

A MARINE UNDER-ROCK COLLECTING GROUND

Northeast of Gonzales Point lies a tiny beach, overshadowed by a single Schouler's Willow, and covered at its upper level with a growth of Wild Rye. The willow is a reminder of the time when the banks of most Oak Bay beaches were willow-clad; the wild rye bears testimony to the days when the beach was a favorite Indian camp-site.

At high water, this beach is separated from an islet by a channel some thirty yards in width. At extreme low tide the channel-bottom is exposed. It is then seen to be strewn with small boulders, and covered by Sea-lettuce (*Ulva*) and at its lower levels by various broad-leafed Brown Algae; of these, *Alaria* is the most conspicuous. Winter gales tear away the leaves (laminæ) of this Alga and leave the tough stalks (stipes). On June 10th, when the Marine Biology Section visited this site, its drab colouration and the skeleton-like projecting stipes of *Alaria* gave the area a most desolate and uninviting appearance.

When the upturning of rocks began, however, a new world presented itself--a world of vivid colour. Sponges--yellow, bright red, and purple, were abundant. Less common were the soft and slippery encrustations of the Sea-pork (*Amaroecium*), a compound Tunicate, with its pink jelly-like material imbedded with numerous tiny white tadpole-like animals (zooids). Fairly common were the yellow Sea-lemon (*Anisodoris*), a nudibranch (shell-less sea snail); a red nudibranch (*Rostanga pulchra*, presumably) with its red egg-ribbons deposited in a spiral coil; and a beautiful white one with orange-red papillae (*Triopha carpenteri*, probably). The last two forms hitherto have not been reported north of Monterey. Some rocks were encrusted with the pink Lithothamnion, not an animal, but a calcareous Red Alga; others with Bryozoans or Moss-animals (*Flustra*, etc.). Serpulid worms (*Serpula vermicularis*), with twisted white calcareous tubes capped by a red operculum when the animal is withdrawn, apparently vied for a place with Rock Oysters (*Pododesmus macroschisma*), in which the valve of the shell adjacent to the rock bears a notch through which an attaching byssus extends, and with White Slipper-shells (*Crepidula nivea*). Sea-cradles or Chitons, whose shell consists of eight overlapping valves, were fairly abundant--among them the Mossy Chiton (*Mopalia muschatus*) and the beautiful Lined Chiton (*Lepidochitona lineata*). Keyhole Limpets (*Diadora aspera*) were also observed, several with the commensal worm, *Acholoe vittata*, coiled beneath the edge of the mantle. At extreme low-tide line were Lamp-shells (*Terebratalia transversa*), members of a group of animals, the Brachipods, which traces its lineage back some 500 million years to the Cambrian Period.

The substratum beneath the boulders likewise yielded a varied assemblage of forms. Sea-cucumbers, animals related to the Star-fish but with the tube-feet around the mouth modified to form tentacles used in feeding, were plentiful--a red species, *Cucumaria miniata*, and a smaller white form, *Cucu-*

maria quinquesemita. Terebellid worms (*Amphitrite robusta*), secreting a mucilaginous tube to which sand grains, broken shell, etc. adhere, were particularly large and abundant: the females, when laden with eggs, are a brilliant red; the males are a dingy white. Polynoid or Scale-worms (*Halosydna brevisetosa*) were common commensals in the tubes of *Amphitrite*. Black-clawed Crabs (*Lophopanopeus bellus*) and the purplish, much flattened Porcelain Crabs (*Petrolisthes eriomerus*) scurried hither and thither. Blennies, so often mistaken for Eels, were very abundant, and were often found in places which were merely damp. Several species of Blenny were represented, the commoner being the handsome purplish-black one (*Epigeeichthys atropurpureus*) and the olive-green form (*Xiphister mucosus*). Along with the Blennies was an occasional Cling-fish or Lump-sucker (*Caularchus meandricus*), which is able to hold fast by means of a ventral sucker.

The above mentioned forms are only a few of those to be observed in this area, but enough has been said to give some idea of its richness, and to show that the region is worthy of careful study. It is to be hoped most sincerely that it may remain unspoiled. Collectors may do their part by replacing, most carefully, rocks which they have upturned in their searching.

Jeffrey A. Cunningham,
Convener.

NOTE:

The next monthly meeting will be held on September 12th. (see back cover.)

PACIFIC SALMON

The fish which rightfully bears the name of "salmon" is the Atlantic salmon (*Salmo salar* L.) of Europe and Eastern North America. Like our steelhead trout, this fish does not die after spawning but may return to fresh water several times during its lifetime in order to breed. The fishes which are found in the North Pacific Ocean and which are called "salmon" are not true salmon since they differ fundamentally from the Atlantic salmon in several respects.

Not only do they differ structurally in certain details such as scale pattern and finray count but they also differ basically in habit since they spawn but once then die. It was natural, however, for explorers and early settlers in the Pacific Northwest to call these fish "salmon" since they resemble closely the fish they knew so well in their homeland. "Pacific salmon" is a better name for these fishes to distinguish them from their close relative, the true salmon of the Atlantic.

Scientifically they are grouped in the genus Oncorhynchus which means "hook-nosed", a character evident at spawning time especially among males.

In British Columbia there are five species of fish belonging to this group; they are named and characterized as follows:

1. SPRING) also Tyee, King, Chinook or
Quinnat) Oncorhynchus tshawytscha.

Average weight, 25 pounds (individuals up to 112 pounds have been recorded; those over 40 pounds are generally called "Tyee"). Mature in their third, fourth, fifth, sixth or seventh year.

Illustration page 39.

2. COHO (Silver, Blueback, during spring and early summer). Oncorhynchus kisutch. Average weight, 9 pounds. Mature in third year.

Illustration Page 26.

3. SOCKEYE (Red, Blueback). Oncorhynchus nerka. Average weight 7 pounds. Mature in their fourth or fifth year. ("Land-locked" varieties are known as kokanee, Kennerley's salmon, Little red fish, etc. and may attain a weight of little more than a pound).

Illustration Page 39 & Front Cover.

4. PINK (Humbuck). Oncorhynchus gorbuscha. Average weight, 4 pounds. Mature in their second year.
5. CHUM (Dog or Keta). Oncorhynchus Keta. Average weight, 10 pounds. Mature in their third, fourth or fifth year.

All Pacific salmon spawn in fresh water. The eggs are laid in pockets in gravel excavated by vigorous tail-flappings of the female. As the eggs are released, a few at a time, they are fertilized by the male and covered by gravel by the female as she digs further nesting sites slightly upstream. The eggs hatch after some months, the period of incubation depending upon the temperature of the water but the fry remain buried in the gravel for protection until the yolk sac is absorbed. The young salmon remain in fresh water for varying periods; chum salmon drop down to the sea almost as soon as they emerge from the gravel; pinks migrate to sea early in their first year; spring and coho seldom stay more than one year; sockeye normally spend at least one year in fresh water.

In the sea, salmon may travel long distances as revealed by tagging and marking experiments. Spring salmon caught, tagged and released off Vancouver Island have been recaptured as far south as the Sacramento River, California. However far they travel when the time of spawning approaches individuals of all five species move toward fresh water and in nearly all cases ascend the very streams in which they were hatched. Although it may require several months for the migrating fish to travel from the river's mouth to the spawning grounds which may be hundreds of miles from the sea, no food is taken while in fresh water the fish obtaining their energy from the store of fat and oil accumulated before their long journey. Hence those which escape the dangers which beset them on all sides, arrive at the spawning grounds in an emaciated condition and die very soon after completing the spawning act.

In the vicinity of Victoria the spawning run of Pacific salmon may be observed on a small scale in Goldstream during late September and October. At this time dog salmon and occasionally a few cohoes may be seen lying in pools or in gravel stretches not far removed from the highway. Here the observer may be fortunate enough to see the actual laying of eggs but this act usually takes place early in the day when the fish are least likely to be disturbed.

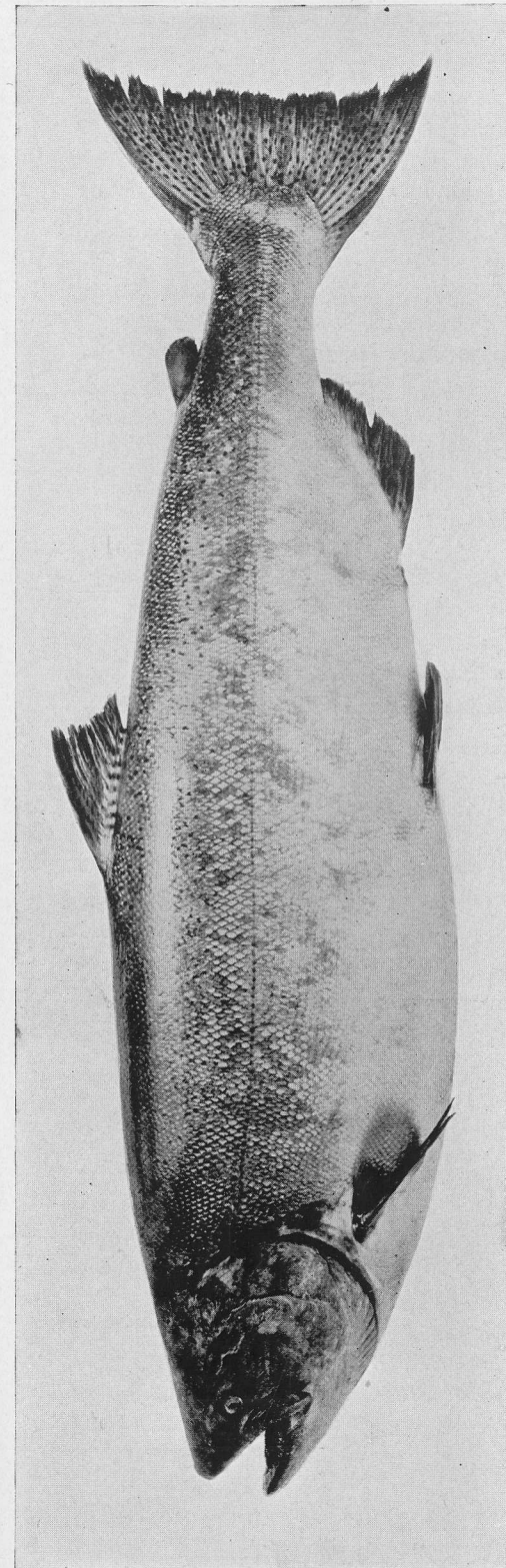
G. Clifford Carl,
Provincial Museum.

BIRD NOTES:

Western Martin (*Progne subis hesperia*)

It is to be much regretted that for the first time in many years the Western Martin has not nested in the City. Although never plentiful, there have always been one or two pairs in evidence during the nesting season. In 1943 they built in the cornice of the warehouse at the corner of Fort and Wharf Street.

Editor.



(Above)

SPRING OR TYEE SALMON
(*Oncorhynchus tshawytscha.*)

Average weight 25 lbs.

Average length 38½ in.

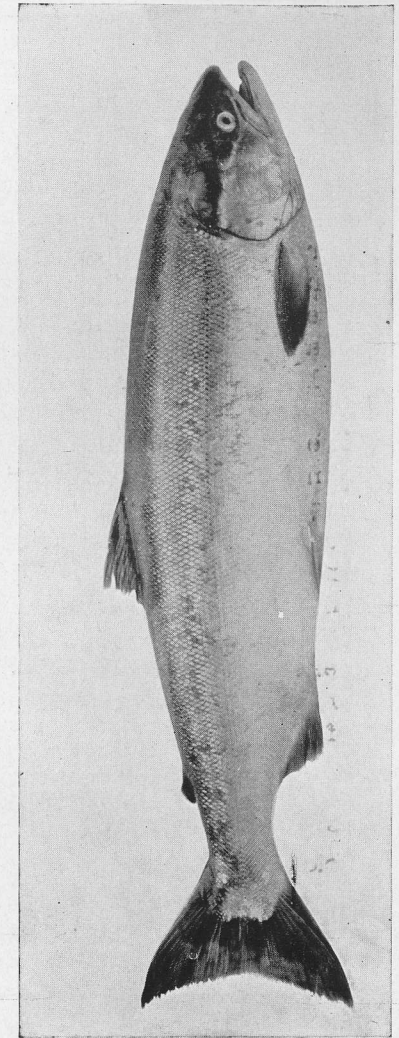
Individuals as large as 112 lbs.
have been taken.

(Below)

SOCKEYE SALMON
(*Oncorhynchus nerka.*)

Average weight 7 lbs.

Average length 28 in.



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NOTICE OF NEXT MEETING

The next meeting of the Society will be held in
READING ROOM OF PROVINCIAL LIBRARY, PARLIAMENT BUILDINGS
at 8 p.m. on Tuesday the 12th September, 1944

